



PSG

1700, Léon-Harmel
Québec (Québec)
G1N 4R9

Installation and Operating Instructions for models CADDY and MINI-CADDY wood furnaces and wood/electric combination

**READ THE MANUAL THOROUGHLY
BEFORE OPERATING THE FURNACE**

FURNACE MODELS INCLUDED IN THIS MANUAL

CADDY WOOD AND WOOD/ELECTRIC COMBINATION
15 Kw, 18 Kw, 20 Kw, 25 Kw

MINI-CADDY WOOD AND WOOD/ELECTRIC COMBINATION
15 Kw

**Read these instructions carefully before installing
and operating your furnace.**

CONGRATULATIONS!

You have purchased one of the finest wood
or wood/electric furnaces available on the market.

We are confident that your furnace will provide years of comfort and safe
operation.

Please keep this document

TABLE OF CONTENTS

INTRODUCTION	3
1. CHIMNEY AND DRAFT	3
2. SAFETY RULES	3
GENERAL REQUIREMENTS	3
ODOUR FROM THE PAINT	4
ASH DISPOSAL	4
CREOSOTE BUILD-UP AND REMOVAL	4
SMOKE DETECTOR	5
DOOR GLASS	5
GLASS SPECIFICATIONS	5
ASH DRAWER	6
ASH GRATE	6
3. APPLIANCE INSTALLATION	6
A- UNIT LOCATION	6
B- CLEARANCES TO COMBUSTIBLE MATERIALS	7
C- PIPE CONNECTOR AND DAMPER	8
D- DAMPER	9
E- COMBUSTION AIR	9
F- ELECTRICAL CONNECTION	10
<i>CADDY-WOOD AND MINI-CADDY WOOD</i>	10
<i>CADDY WOOD/ELECTRIC AND MINI-CADDY WOOD/ELECTRIC</i>	10
G- ELECTRIC ELEMENT (CADDY WOOD / ELECTRIC)	11
H- THERMOSTAT	12
I- FAN CONTROL	12
4. OPERATING INSTRUCTIONS	13
CONTROL SYSTEM	13
<i>a) LIGHTING:</i>	13
<i>b) PREHEATING:</i>	13
HEATING	14
EARLY SIGNS OF OVERFIRED FURNACE:	14
WOOD AS HEATING FUEL	14
CHIMNEY FIRES	15
5. MAINTENANCE	16
MAINTENANCE OF THE EXCHANGERS	16
MAINTENANCE OF THE BLOWER MOTOR	18
FILTERS	18
DOOR GASKET MAINTENANCE	18
6. REPLACEMENT PARTS	19
DOOR GLASS	19
GASKET	19
7. WIRING DIAGRAM	20
CADDY & MINI CADDY WOOD	20

CADDY WOOD / ELECTRIC	21
MINI-CADDY WOOD / ELECTRIC	22
8. CADDY TECHNICAL DATA	23
GENERAL TECHNICAL DATA	23
TECHNICAL DATA – ELECTRIC MODE	23
9. MINI-CADDY TECHNICAL DATA	24
GENERAL TECHNICAL DATA	24
TECHNICAL DATA – ELECTRIC MODE	24
11. CADDY BRICKS LAYOUT	26
12. MINI-CADDY BRICKS LAYOUT	27
13. TROUBLE SHOOTING	28
LIMITED LIFETIME WARRANTY	29

INTRODUCTION

Take note that this furnace operates like an EPA wood burning stove. This applies to the lighting, the embers and the minimum combustion air intake which depends on the type and the grade of the combustible.

This model line is certified as meeting the emissions limits in 40 C.F.R. part 60, section 60.532 (B) per EPA methods 28 and 5G-3, February 1988.

Average emissions rate: 6.56 g/hr
Average heating efficiency: 71.43%

To optimize the efficiency of your furnace, here are few advices you should follow when installing or operating your Caddy or Mini-Caddy furnace.

Respect the local codes (when in doubt, consult your local dealer).

Make sure your furnace is installed according to the instructions on the certification plate.

All controls adjustments must be performed by a qualified technician. The controls settings and the blower speed must conform to the recommendations of the National Warm Air Heating and Air Conditioning Association and respect the recommended static pressure ranges in the warm air bonnet of the furnace (see General Technical data static pressure).

1. CHIMNEY AND DRAFT

This furnace must be connected to a chimney certified for wood burning heating appliances; a 7 inch chimney and connector are highly recommended for the Caddy and a 6 inch chimney and connector for the Mini-Caddy. (see installation diagram on the back of the manual).

Install the barometric control provided with the furnace. Never install a manual damper.

The barometric control must be adjusted so that the maximum draft measured at the furnace outlet does not exceed -0.06 in. w.c. Please note that a draft exceeding -0.06 in. w.c. could produce an uncontrollable fire. **On the other hand, the minimum draft required is -0.04 in. w.c. in the evacuation pipe on the wood side, no matter what type of furnace (CADDY WOOD, CADDY WOOD / ELECTRIC, CADDY WOOD / OIL, MINI-CADDY WOOD OR MINI-CADDY WOOD/ELECTRIC).**

2. SAFETY RULES

GENERAL REQUIREMENTS

- Make sure the chimney outlet and the pipes are clean and in good condition.
- Do not use chemical products or liquids to light the fire.
- Do not burn wood coated with paint, glue or chemical products.
- Do not burn wastes or flammable liquids such as gasoline, naphtha or motor oil.
- Do not install an automatic feeder on this furnace.
- Do not store wood in the vicinity of the furnace. Respect the required clearances between combustible materials and the source of heat.

WARNING

- THE ASH DRAWER AND EXCHANGERS ACCESS PANEL GET VERY HOT.
- DO NOT MANIPULATE WITH BARE HANDS.

ODOUR FROM THE PAINT

It is normal that a smoke odour emanate from the unit when you first light it. It is recommended to burn it at high rate and ventilate the building until the odour resorbs.

ASH DISPOSAL

Ashes must be placed in a metal container with a tight fitting lid. The container should be stored placed outdoors, well away from combustible materials. If the ashes are meant to be buried in soil, you should wait until all cinders have thoroughly cooled.

CREOSOTE BUILD-UP AND REMOVAL

When wood is burned slowly, it produces tar and other organic vapours which, when combined with moisture, form creosote. The creosote vapours condensate in a relatively cool chimney flue. As a result, creosote residues accumulate on the flue lining.

N.B.: To minimize the frequency of the chimney cleaning, buy your firewood at least one year before using it. Store it in a dry place in order to obtain the minimum moisture rate and optimize the efficiency. Do not store wood or combustible materials within the installation minimum clearances or the space required to reload the appliance and remove the ashes.

When ignited, creosote produces an extremely hot fire inside the chimney.

To avoid chimney fires, it is important to do the turnover of wood. Inspect the chimney system at regular intervals to determine a cleaning cycle. A weekly cleaning might be required during mild temperature periods while a monthly cleaning should be sufficient during colder periods. **If a significant layer of creosote has accumulated, it must be removed immediately to eliminate the risk of chimney fire.** Remember that a small hot fire is preferable to a large smouldering one to prevent creosote build-up within the system. An emergency plan is necessary in case of a chimney fire. It's recommended to clean up the heat exchangers at the end of season in order to prevent corrosion.

SMOKE DETECTOR

We highly recommend the use of a smoke detector. It must be installed at least 15 feet (4,57 m) from the appliance in order to prevent undue triggering of the detector when reloading.

DOOR GLASS

To maintain a clean and safe installation, do not build your fire too close to the glass or allow the fire logs to lean on the glass.

Do not operate your furnace at too low a setting. Keep the air inlet opened long enough during the fire start-up to prevent the fire from going out, which would stain your glass.

An intense fire will help keeping the glass clean. However, in the event that your glass gets stained, which should not occur, you will have to clean it using a wet cloth and an oven cleaner. The glass can be cleaned **ONLY** when the unit has cooled down. Do not use abrasive cleanser. Wood stove glass cleaners are available on the market and their efficiency makes no doubt.

WARNING: Avoid knocking or scratching the glass which could be damaged.

GLASS SPECIFICATIONS

The glass is made of Pyroceram type of glass, 3/16" – (5 mm) thick.

Do not operate your furnace with a broken glass, as this could seriously damage your appliance.

You can purchase your replacement glass from your dealer.

ASH DRAWER

Your appliance is equipped with an ash drawer to collect ashes produced by the combustion of wood. This drawer must not be left open during combustion as this may cause over firing and serious damages to the furnace.

The drawer must be cleaned regularly.

It is important that the door and the ash drawer be kept closed while the appliance is in use. Maintain all gaskets in good condition; in case of deterioration, contact your dealer for replacement.

ASH GRATE

You must replace the ash grate if it is damaged and a replacement may be obtained from your dealer. The steel plate on the ash grid is meant to optimize the heat inside the combustion chamber and should only be removed to empty the ashes.

3. APPLIANCE INSTALLATION

A- UNIT LOCATION

The furnace must be installed where outside air supply is sufficient for proper combustion. In airtight houses, it might be necessary to install an outside air inlet (see details in: «3- INSTALLATION» D- COMBUSTION AIR).

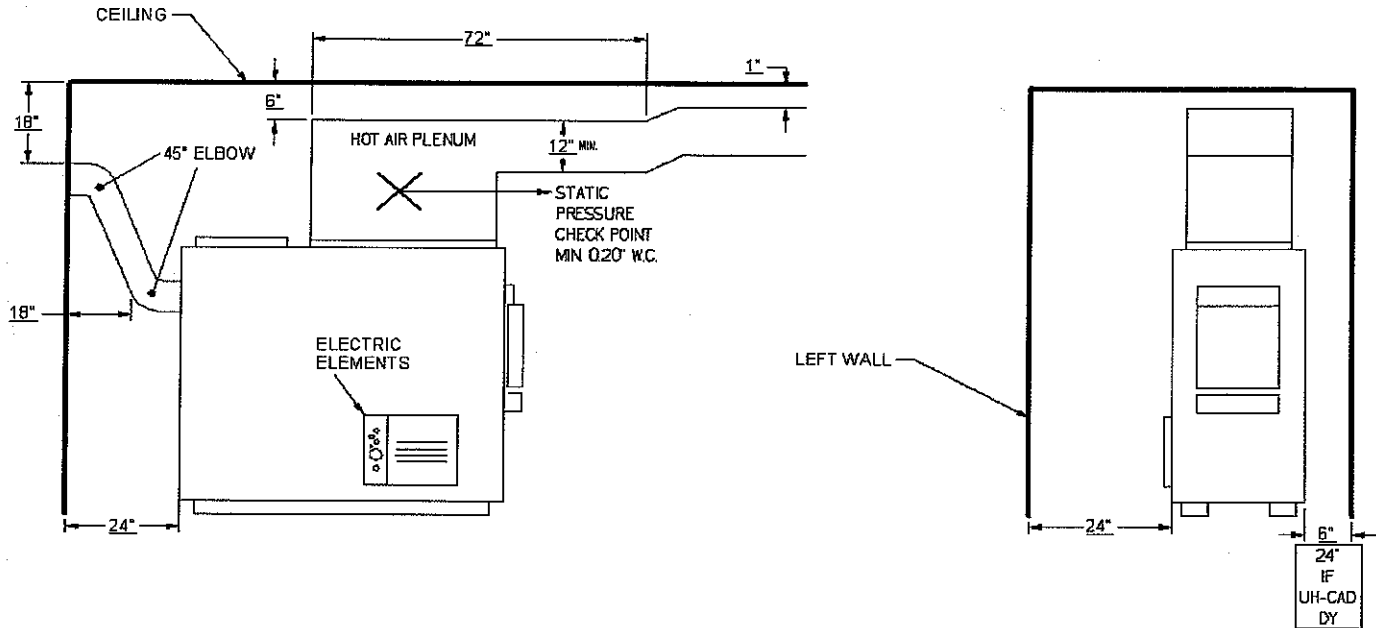
The furnace must be positioned so that the connector is as short as possible; minimize the use of 90° elbows.

The owner must ensure a proper installation to allow a safe operation of the appliance.

B- CLEARANCES TO COMBUSTIBLE MATERIALS

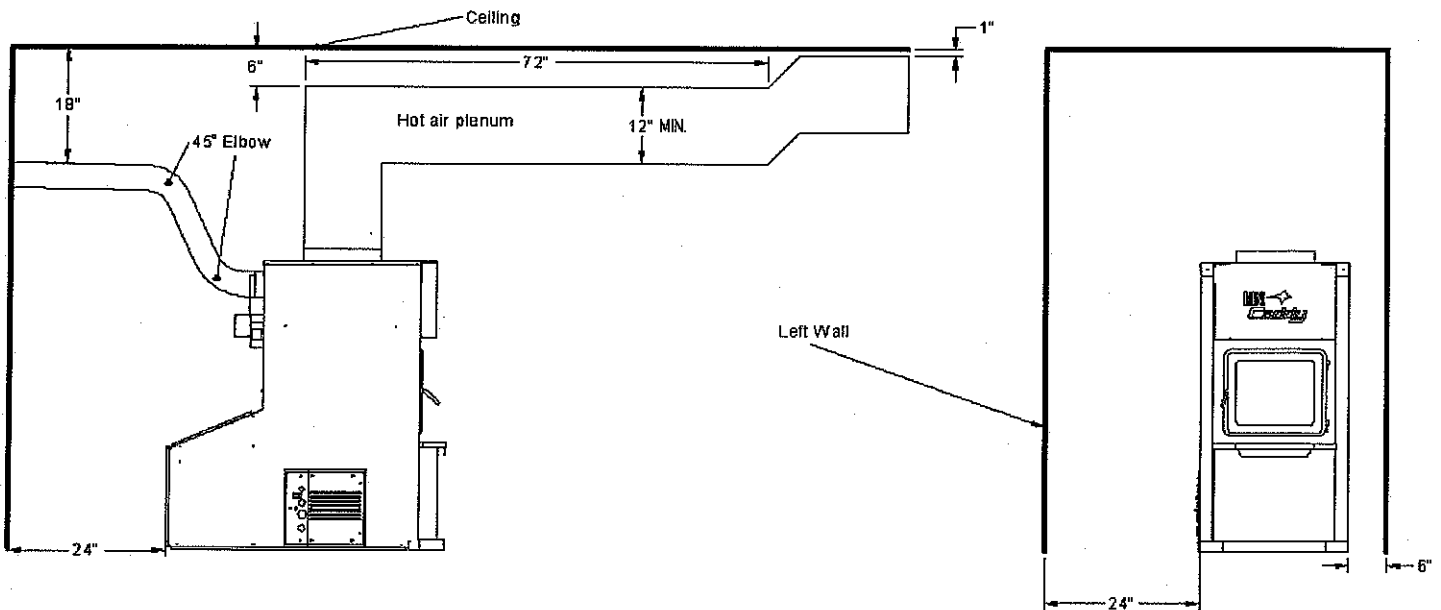
N.B. This appliance must be installed according to the instructions on the unit's certification plate.

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS FOR CADDY FURNACE



N.B. THE SIZE OF THE AIR RETURN CONDUITS SHOULD BE AT LEAST EQUAL TO THE SIZE OF THE COLD AIR PLENUM OPENING.

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS FOR MINI-CADDY FURNACE

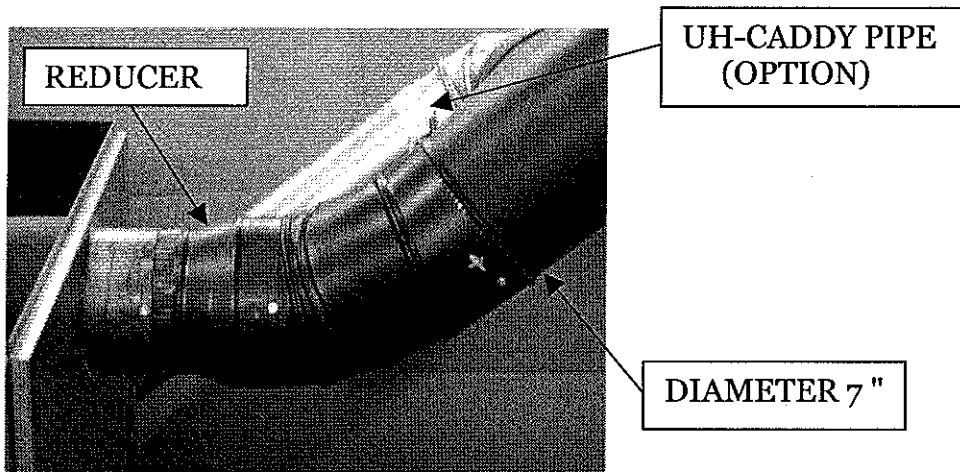


N.B. THE SIZE OF THE AIR RETURN CONDUITS SHOULD BE AT LEAST EQUAL TO THE SIZE OF THE COLD AIR PLENUM OPENING.

C- PIPE CONNECTOR AND DAMPER

Before proceeding to connection, remove all accessories such as scraper, shovel and poker from the evacuation pipe of the furnace.

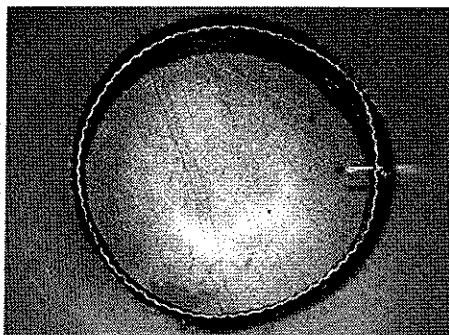
A 7" diameter chimney listed for use with wood burning heating appliances is highly recommended for the Caddy (6" diameter for the Mini-Caddy) a 7" to 6" reducer must be used when required. Install the barometric control provided with the furnace. Never install a manual damper.



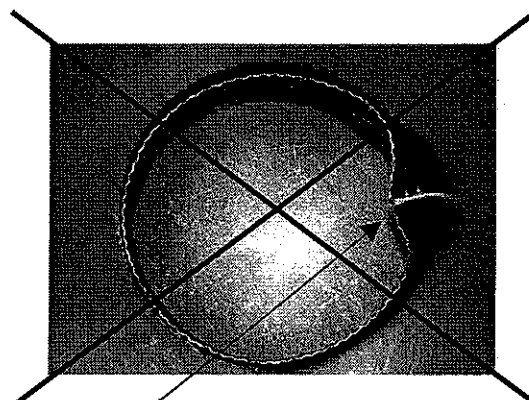
For a proper installation, follow the advices below:

1. All the evacuation pipe joints must be secured with three screws. *Make sure that each screw goes through the inner walls of both connectors (male and female). See pictures below showing a male-female coupling.*

PROPER INSTALLATION



IMPROPER INSTALLATION



CAUSE RESTRICTION

2. A minimum rise of 1/4 inch per horizontal foot must be respected.

D- DAMPER

The barometric control must be adjusted so that the maximum draft measured at the furnace outlet is limited to -0.06 in. w.c. Please note that a draft higher than -0.06 in. H₂O could result in an uncontrollable fire. **On the other hand, the minimum draft to be respected is -0.04 in. w.c. in the evacuation pipe on the solid fuel side, no matter what type of furnace (CADDY WOOD, CADDY WOOD / ELECTRIC, CADDY WOOD / OIL, MINI-CADDY WOOD OR MINI-CADDY WOOD / ELECTRIC).** Reference: "INSTALLATION DRAWING" on the back of the manual.

E- COMBUSTION AIR

When the furnace and the chimney are completely cold, it might be necessary to provide fresh air by opening a door or a window for a few minutes while lighting the fire.

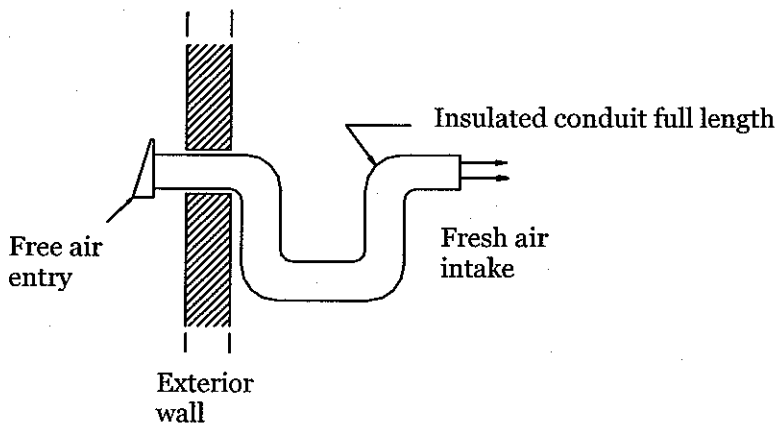
Take note that a house constructed or renovated in order to be airtight is liable to lack fresh air necessary for the proper combustion of a flame producing heating appliance.

In such a case, when starting up the fire, do not operate appliances which evacuate air outside the house such as:

- Range hood
- Air exchanger
- Clothes dryer
- Bathroom fan
- Ventilated central vacuum system

NOTE:

It is recommended to install an outside air inlet of minimum 4" diameter in the room where the heating appliance is installed (see drawing below). It is preferable to choose a wall which is not exposed to dominant winds, depending on the conditions surrounding your house.



N.B. The owner of the furnace is responsible for the room salubrity in case of negative pressure or temporary negative pressure.

F- ELECTRICAL CONNECTION

The following instructions do not supersede the local code.

CADDY-WOOD AND MINI-CADDY WOOD

On the Caddy the combined limit control is installed with the support provided on the left side of the appliance (two holes are predrilled on the edge of the furnace), and connected to the electrical box along with the transformer. Install the damper motor on the right side of the façade, above the door (use the pre-drilled holes). The chain that links the air inlet latch to the motor must have a play of 1/8 in. When there is no call for heat, the air inlet latch must be completely shut and the chain must be affixed to the servo-motor at the "8 o'clock" position. *
For the Mini-Caddy the damper motor is installed on the back and a rigid rod links it to the damper.

WARNING: USE WIRING SUITABLE FOR 75° C

CADDY WOOD/ELECTRIC AND MINI-CADDY WOOD/ELECTRIC

The high limit control is a manual reset thermostatic captor and is located directly inside the electric unit (see **WIRING DIAGRAMS**). The electric unit must be connected as shown on the diagram. Install the combined limit control on the support provided, at the determined location. For the Mini-Caddy, mount the fan limit control for the electric unit at the designated place near the unit. The connections must conform to the diagram.

On the Caddy, install the damper motor on the right side of the façade above the door (use the pre-drilled holes). The chain that links the air inlet latch to the motor must have a play of 1/8 in. When there is no call for heat, the air inlet latch must be completely shut and the chain must be affixed to the damper motor at the "8 o'clock" position. *
For the Mini-Caddy a rigid rod link the servomotor to the damper.

WARNING: USE WIRING SUITABLE FOR 75° C

* (With all reserves on the minimum combustion air to be increased depending on the type and quality of the combustible).

G- ELECTRIC ELEMENT (CADDY WOOD / ELECTRIC)

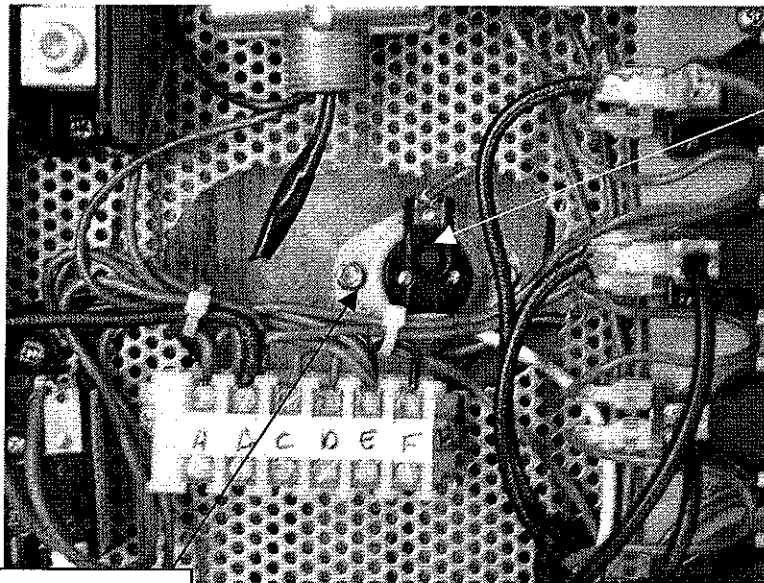
The WOOD / ELECTRIC combined model is installed with two thermostats: one thermostat controls the electric heating, the other one controls the wood heating. With this system, the electric heating has priority over the wood heating. When the thermostat activates the electric heating, the air inlet closes down (if opened), the blower starts and the electric elements are successively activated per block of 5 kW. The system might be equipped with an outdoor sensor which will allow the last block of elements (5 kW) to start up only when the outside temperature is cold enough. This will reduce the power of the systems by 5 kW during mild temperature for more comfort.

When the call for electric heating is satisfied, the wood system will take over if the starting point of the wood system is superior to that of the electric system so, in normal bi-energy use, you should set the wood system thermostat 2° to 3° higher than the electric system thermostat; the bigger the gap, the more the wood heating will contribute to the overall heating needs.

Take note that this furnace is equipped with a four speed blower motor. Aside from low speed, you may select medium-low, medium-high or high speed.

If the temperature of the unit exceeds the high limit setting, the thermodisk will disengage the elements. For reactivation, press the red "manual reset" button of the L-170 thermodisk after finding and fixing the problem that has caused the unit to overheat (static pressure too high, fan breakdown, etc.)

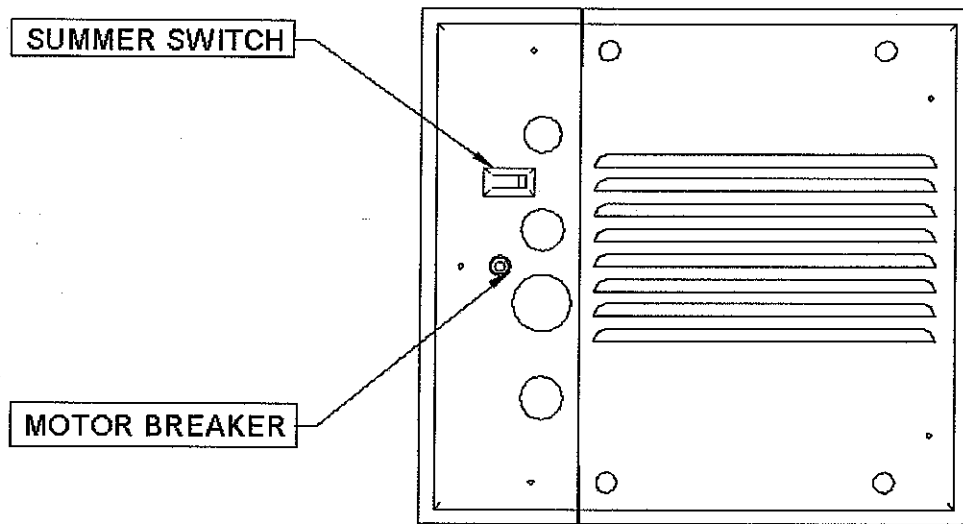
INSIDE VIEW OF THE ELECTRIC ELEMENT



**Thermodisk
RESET**

**Red button
manual reset**

OUTSIDE VIEW OF THE ELECTRIC ELEMENT



H- THERMOSTAT

The thermostat must be installed on an inside wall in a location where it is not likely to be affected by the draft coming from an air outlet. It must be installed at a minimum of 55 inches above the floor.

N.B. Both thermostats on the combined wood / electric model must be installed at same height.

I- FAN CONTROL

The fan control setting varies depending on the type of installation. The setting "out of service" is preset at 110° F at the factory. This setting should provide a proper operation for most installations. The temperature "in service" is factory set at 150° F.

It is preferable for a prolonged operation of the blower that the setting "out of service" be low enough. But a setting "out of service" too low will cause undesirable cold air circulation. To modify the setting, move the tab to the desired position on the temperature dial of the fan limit control.

The adjustment of all controls must be performed by a qualified technician. The controls setting and the blower speed must conform to the recommendations of the "Warm Air Heating and Air Conditioning National Association". For continuous operation of the blower, move the switch on the limit control from the "auto" to the "manual" position.

The switch located below the limit control or on the electric unit controls the low speed either at the "on" position or the "off" position. For a quieter operation, it is recommended to use low speed for continuous operation of the blower (summer) and to leave the high speed on automatic (wood side fan limit control) during the heating season.

4. OPERATING INSTRUCTIONS

CONTROL SYSTEM

On the wood furnaces only, the thermostat controls the air inlet damper. When the thermostat calls for heat, the damper opens and the fire stirs up. When the furnace gets hot enough, the combined limit control activates the blower motor at the speed selected for wood heating.

The chain that links the air inlet damper to the motor must have a play of 1/8 inch. When there is no call for heat, the air inlet damper must be completely closed and the chain must be affixed to the damper motor at the "8 o'clock" position. *

* (With all reserve on the minimum air to be increased depending on the type and quality of the combustible).

a) LIGHTING:

1. Open the door

Note: In the case that there is a bed of coals in the bottom of the furnace, go to step b) Pre-heating.

2. Remove the steel plate on the ash grid and dump the ashes in the ash drawer.
3. Put the steel plate back in place, making sure it is properly seated. The steel plate on the ash grid is intended to optimize the heat retention into the combustion chamber.
4. Place one or two dry kindlings at the front of the furnace.
5. Place newspaper strips on top of the kindlings.
6. Cover the newspaper with more kindlings and small pieces of dry wood.
7. Add newspaper strips, then light the fire as low as possible and leave the door 1/2" (13 mm) opened. If you fail lighting the fire, you might experience a back draft through the air inlets.

b) PREHEATING

1. Once the kindling is well ignited or the coals revived, put 2 or 3 fire logs in such a way that the flames can interlace between the logs then close the door. It is important to respect these loading sequences so that the wood will burn from the front to the back of the furnace.
2. Wait 15 to 20 minutes, then proceed with loading the furnace.

HEATING

1. When loading the furnace, lower the kindled pieces of wood and place them at the center of the combustion chamber before adding new logs.
2. Do not overload. Air must circulate freely in the upper part of the furnace in order to obtain an efficient operation of the appliance. Please note that a small hot fire will produce much less residues than a large smouldering one.

IMPORTANT: DURING THE HEATING PROCESS, REMOVE THE ASHES AND WOOD THAT COULD OBSTRUCT THE 1/4" (6.4 mm) HOLE LOCATED BELOW THE DOOR INSIDE THE FURNACE.

PROCEDURE TO OPEN THE LOADING DOOR

TO MINIMIZE THE RISK OF SMOKE SPILLAGE, OPEN THE DOOR 1" AND WAIT ABOUT 10 SECONDS BEFORE OPENING COMPLETELY. THE PURPOSE IS TO STABILIZE THE PRESSURE INSIDE THE FURNACE.

EARLY SIGNS OF OVERFIRED FURNACE:

1. Roaring fire.
2. Chimney connector is glowing red.
3. Extreme heat coming from the furnace. If this occurs, **DO NOT OPEN THE DOOR**, shut-off the air inlet opening completely, and wait until the glow has completely subsided.

ALWAYS KEEP THE DOOR AND THE ASH DRAWER CLOSED
(except for lighting and maintenance).

WOOD AS HEATING FUEL

We recommend that you burn seasoned hard wood only.

There are two important factors to be considered when choosing a type of wood: the moisture content and the wood density. Hardwood, such as maple, oak and beech will provide better results because of the high density and minimal tar produced during combustion. It is highly recommended to use wood that has been dried at least six months. **Do not use coal as heating fuel in this appliance.**

Whenever a high rate of smoke is noticed in the room, you must:

1. Open doors and windows.
2. Make sure the furnace door is closed as well as the damper (if necessary, lower the thermostat starting point or unhook the damper chain and close the barometric draft control manually).
3. When the furnace has cooled down, inspect the chimney to detect obstructions and consult a specialist to determine the cause of the smoke spillage.

CARBON MONOXYDE IS A LETHAL GAS (ODOURLESS AND COLOURLESS), WHICH YOU MUST BEWARE OF.

CHIMNEY FIRES

This might occur when the fire gets extremely hot. Burning cardboard, branches or small pieces of wood can ignite the creosote residue accumulated in the evacuation flue system. The usual signs are:

1. Rumbling
2. The flue gets extremely hot
3. Flames are coming out of the chimney

In case of a chimney fire, call your local fire department immediately and sprinkle the roof around the chimney with water.

Make sure that the furnace door is closed as well as the damper (if necessary, lower the thermostat starting point or release the chain from the damper and CLOSE the barometric draft control manually).

If the fire gets uncontrollable due to an improper use or because the draft is too strong, follow the same procedure as in a chimney fire except that you will have to OPEN the barometric draft control manually.

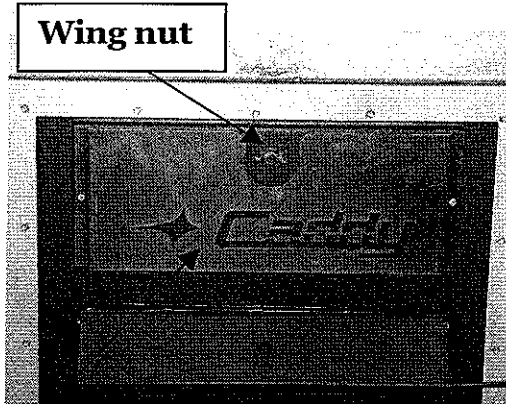
LOCAL FIRE DEPARTMENT.

Phone number: _____

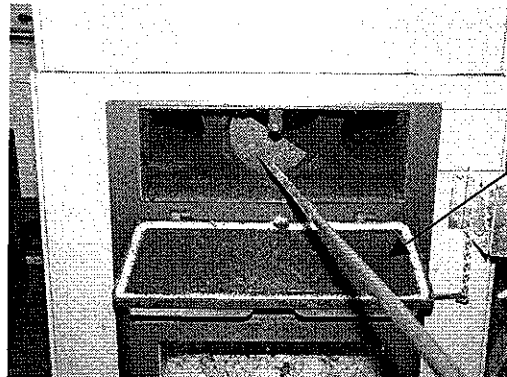
5. MAINTENANCE

MAINTENANCE OF THE EXCHANGERS

The evacuation pipe and the exchangers should be inspected regularly during the burning season. Easy access is provided (without the use of tools): unscrew the wing nut on the exchangers access door. See pictures below.



Wing nut

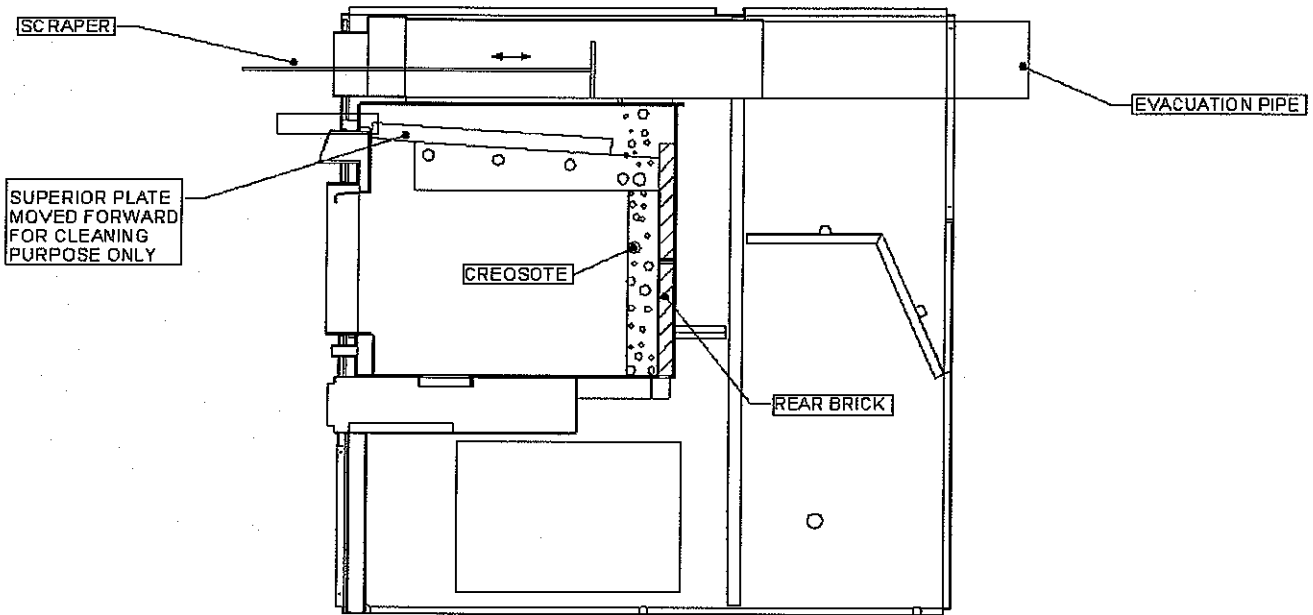


Insulation pad

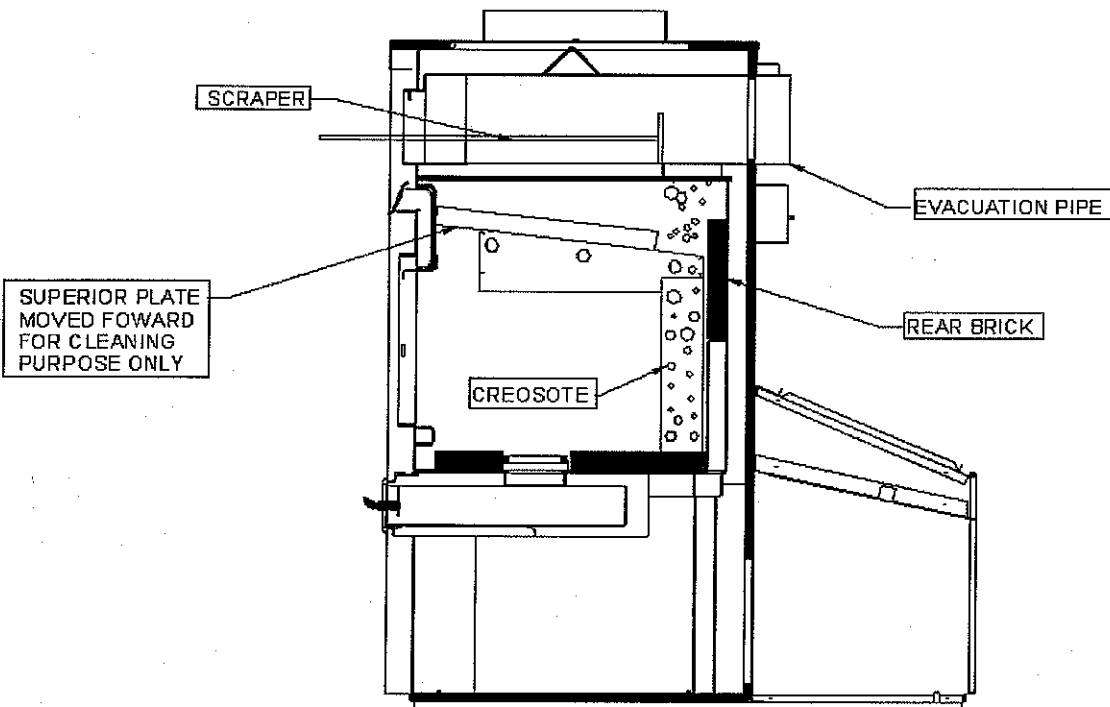
Exchangers cover

Before cleaning the three exchanger pipes, move the upper plate of the combustion chamber forward (see drawing on next page). Using the scraper, clean the three exchanger pipes. The accumulated dirt in the lateral exchangers will fall into the combustion chamber; the dirt in the central exchanger will have to be removed from the front or the back of the furnace. Then, ensure that the upper plate is free of ashes. **Do not forget to push the upper plate backward to it's original position.** Finally, close the exchanger access door.

**CADDY
SECTION VIEW**



**MINI-CADDY
SECTION VIEW**



CHIMNEY MAINTENANCE

The most efficient method to sweep the chimney is using a hard brush. Brush downwards so soot and creosote residues will come off the inner surface and fall at the bottom of the chimney where they can be removed easily.

The chimney must be checked regularly and if creosote has accumulated, it must be removed without delay. Cleaning on a monthly basis should be sufficient during the coldest months.

Smoke flue inspection

- The smoke flue should be inspected regularly during the heating season.
- If possible, the smoke flue should be dismantled and cleaned.
- The flue should be inspected for possible damage.
- If it is in good condition, put the flue back in place; otherwise, it must be replaced.
- Use only wood as a combustible.
- Seasoned hard wood logs 18" to 22" long are recommended as combustible.

MAINTENANCE OF THE BLOWER MOTOR

The two motor bearings must be lubricated once a year using non detergent SAE 20 oil.

DO NOT OVERLUBRICATE

FILTERS

The furnace must not be operated without filters. In order to efficiently and safely operate a slow combustion heating system, you have to ensure a regular maintenance. This means that the chimney, the joints and the flue must be kept in good condition and the air filters must be replaced regularly; use the same size and same type as the original filters.

Filters dimensions

12" x 24" filters(CADDY and PSG 3000) 21039

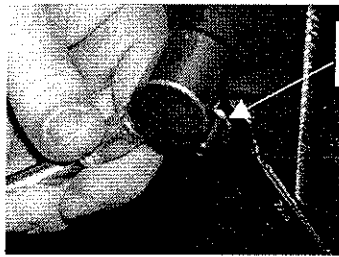
15" x 20" filters(Mini-Caddy)

DOOR GASKET MAINTENANCE

It is important to maintain the door gasket in good condition. After a while, the gasket might sag; a door adjustment may then be required.

Door adjustment procedure:

1. Unscrew completely the locking pin (see picture below).



Locking pin

2. To increase the pressure of the door on the gasket, turn the handle counter clockwise; to decrease the pressure of the door on the gasket, turn the handle clockwise until desired pressure is attained.
3. Then screw back the locking pin about 1/4" deep and make sure you lock it in place with the nut.

6. REPLACEMENT PARTS

Your PSG furnace is designed to burn clean and requires little maintenance. It's recommended to conduct a visual inspection at least once a month to uncover any damage to the unit. Necessary repairs must be done as soon as possible with the original parts. You can find a complete list of replacement parts on our website at www.psg-distribution.com.

DOOR GLASS

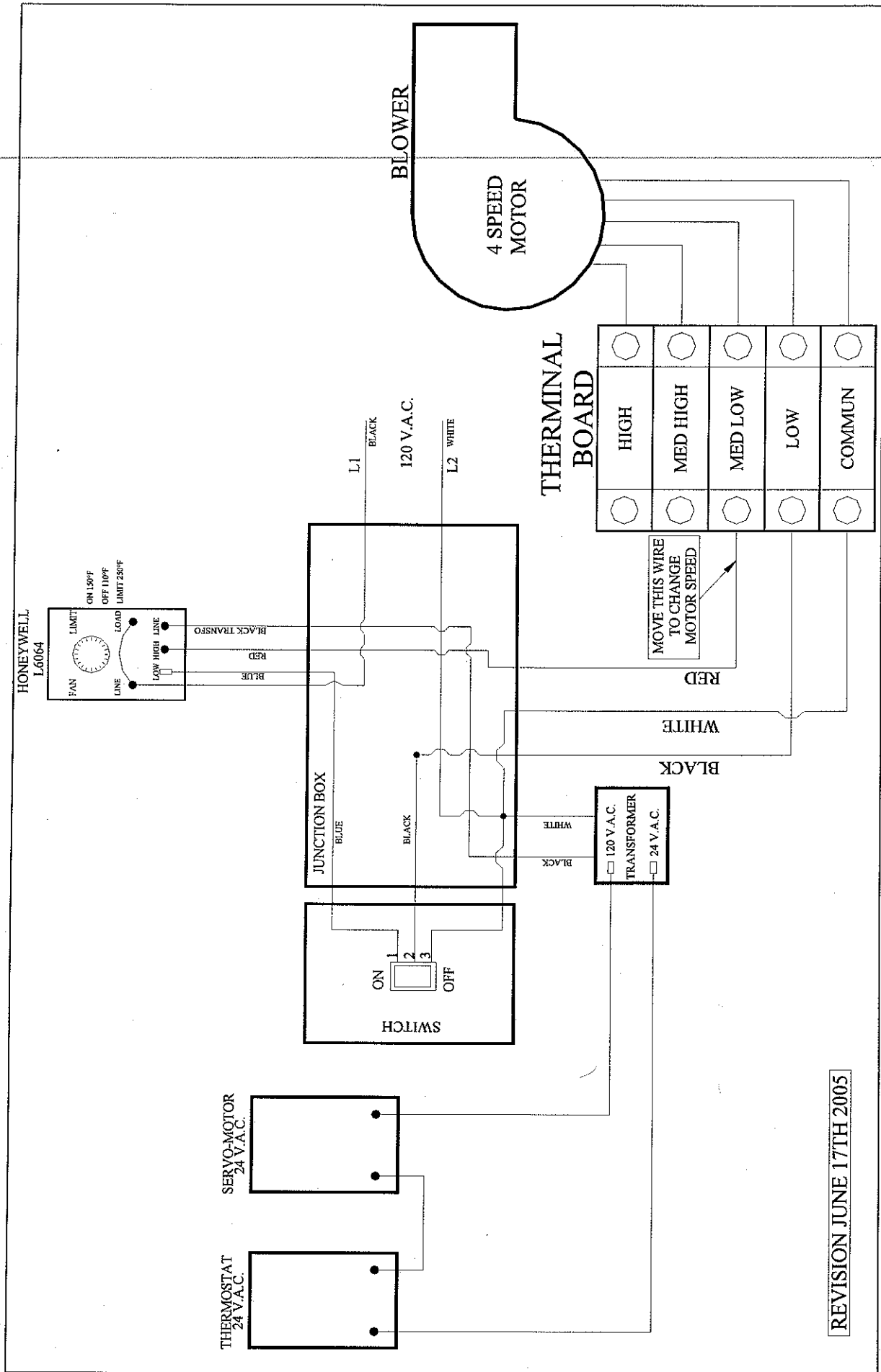
- Inspect glass regularly to detect any glass failure. If you find any defect stop furnace immediately. Never used a furnace with a broken glass.
- If you have to change your door glass, you must use Pyroceram 3/16"(5mm) thick. Use genuine parts sold by a PSG authorized dealer.
- To replace the glass, removed screws that hold the glass retainers in place. Removed these retainers and replace glass. The glass gasket should be replace at the same time. To put back in place, follow the same procedure backwards.
- Do not used abrasive cleanser. Special cleansers for wood stoves glass are available in any good hardware store.
- Clean glass **ONLY** when the unit has cooled down.

GASKET

We recommend to replace gasket that seal the door once a year, in order to maintain a good control of the combustion for maximum efficiency and security. To replace your door gasket, remove the old gasket and glue. Clean the surface thoroughly, apply glue sold for that particular use, and put the new gasket onto the door. Wait for at least 2 hours before lighting your furnace.

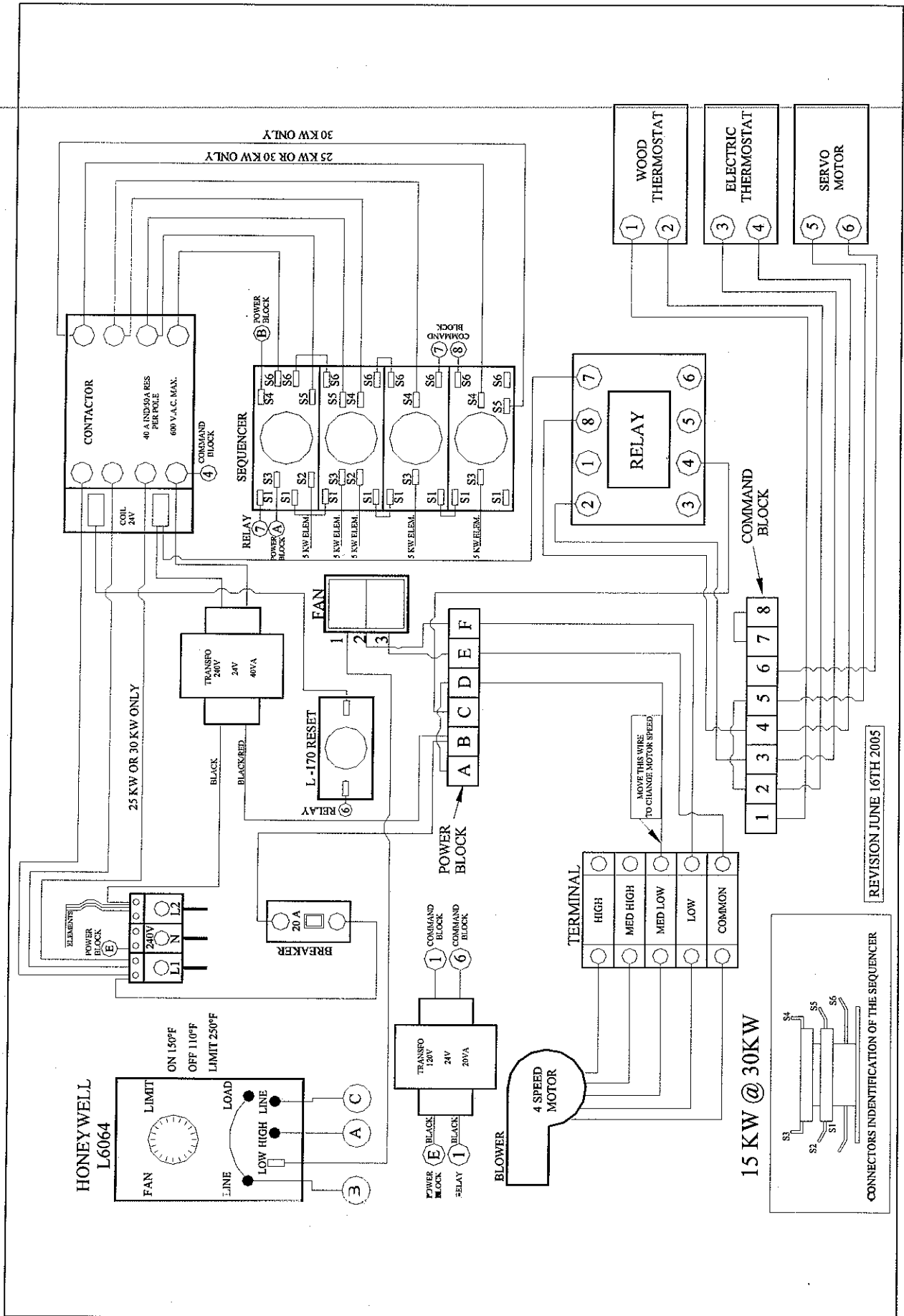
7. WIRING DIAGRAM

CADDY & MINI CADDY WOOD

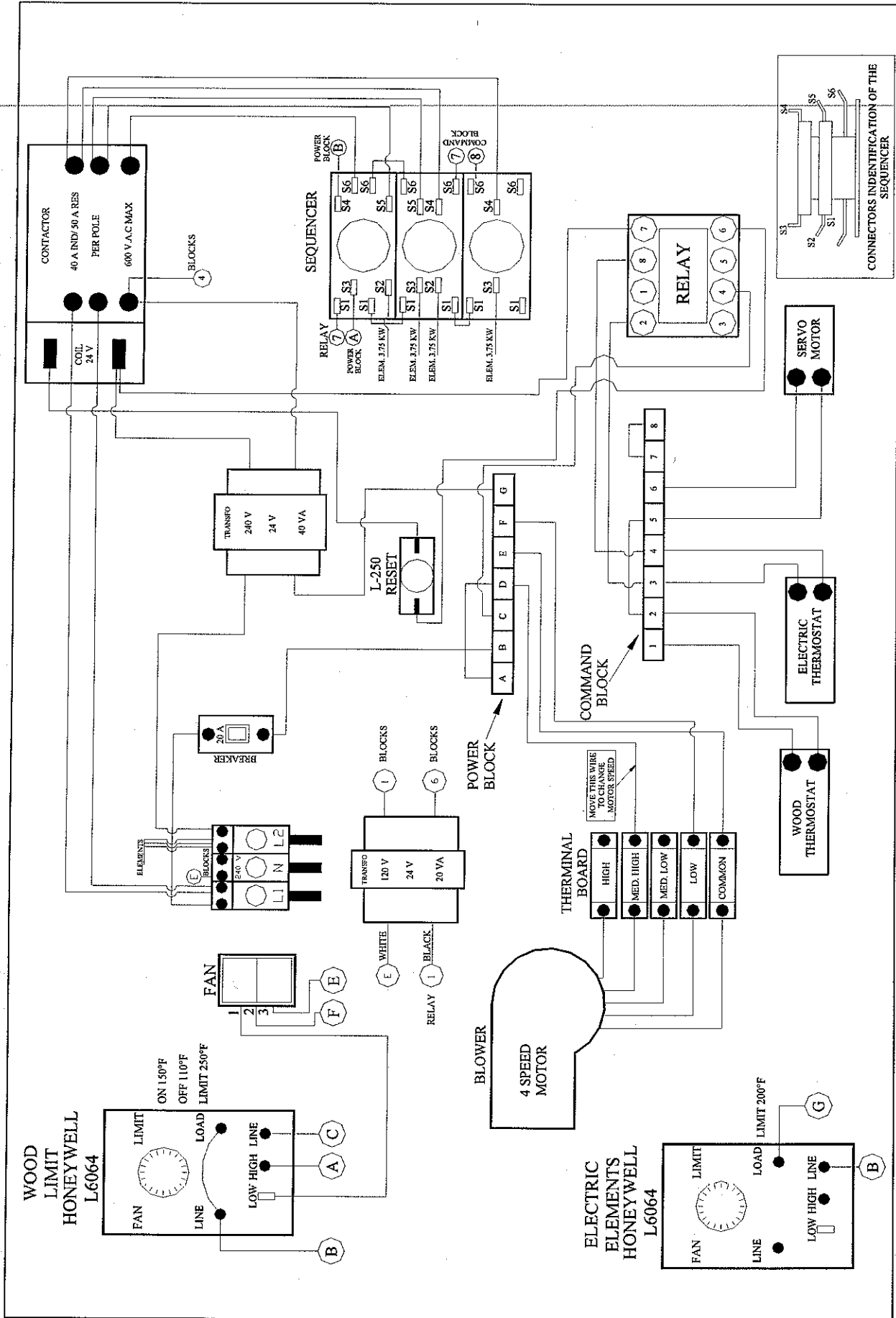


REVISION JUNE 17TH 2005

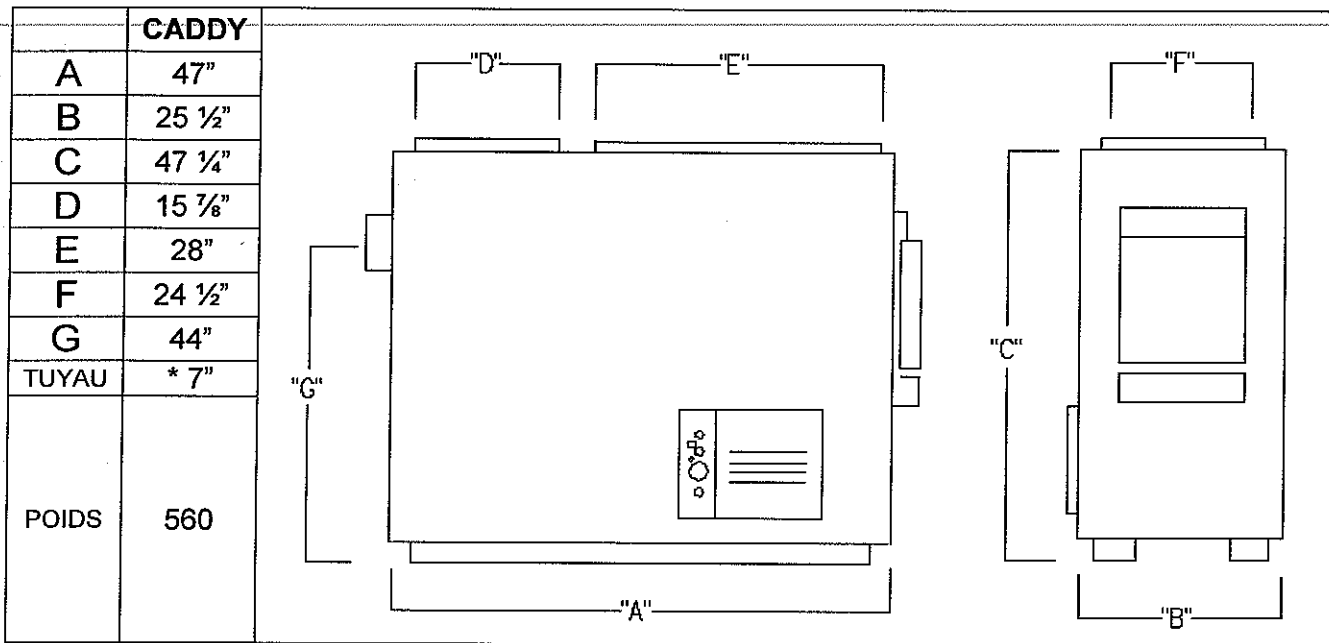
CADDY WOOD / ELECTRIC



MINI-CADDY WOOD / ELECTRIC



8. CADDY TECHNICAL DATA



* Reducer required

GENERAL TECHNICAL DATA

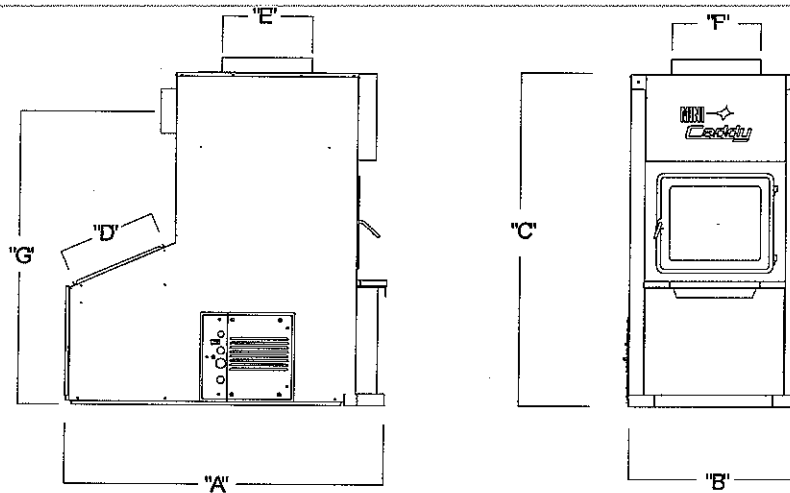
MODEL	DIRECT DRIVE			OUTPUT (CFM)	TEMP VAR. (° F)	BTU/ HR (WOOD)	STATIC PRESSURE		FILTER (2)
	FAN	MOTOR	SPEED				MIN.	MAX.	
CADDY	DD-10	1/3	3 or 4	1300	78	140000	H ₂ O		12" x 24" X 1"

TECHNICAL DATA – ELECTRIC MODE

MODEL	OUTPUT (CFM)	TEMP. VAR. (° F)	BTU/HR	AMPERES TOTAL	BREAKER REQUIRED	FEEDER GAUGE	VOLTAGE SINGLE PHASE	ELEMENTS QTY
15 KW	950	50	51195	75	100	4	120/240	3 – 5 KW
	1300	36						
	1800	26						
18 KW	950	60	61434	87	100	4	120/240	2 – 5 KW, 2 – 4 KW
	1300	44						
	1800	32						
20 KW	950	67	68260	95	115	3	120/240	4 – 5 KW
	1300	49						
	1800	35						
25 KW	950	83	85325	115	140	2	120/240	5 – 5 KW
	1300	61						
	1800	44						
WOOD				15			120	

9. MINI-CADDY TECHNICAL DATA

MINI-CADDY	
A	43 5/8"
B	23 3/8"
C	45 5/8"
D	13 3/8" x 22 3/8"
E	12"
F	12"
G	40 1/4"
TUYAU	* 6"
POIDS	403 Lbs



* Reducer required

GENERAL TECHNICAL DATA

MODEL	DIRECT DRIVE			OUTPUT (CFM)	TEMP VAR. (° F)	BTU/ HR (WOOD)	STATIC PRESSURE		FILTER (2)
	FAN	MOTOR	SPEED				MIN.	MAX.	
MINI CADDY	DCT-916-800-5	1/4 HP	3 or 4	1100	67	73900	H ₂ O 0,2 0,4		15" X 20" X 1"

TECHNICAL DATA – ELECTRIC MODE

MODEL	OUTPUT (CFM)	TEMP. VAR. (° F)	BTU/HR	AMPERES TOTAL	BREAKER REQUIRED	FEEDER GAUGE	VOLTAGE SINGLE PHASE	ELEMENTS QTY
15 KW	1100	67	79600	60	100	4	120/240	4 – 3.75kW
WOOD				2			120	

10. DUCTS AND DAMPERS DIMENSIONS (EXAMPLES OF CALCULATION)

SIMPLIFIED METHOD DISTRIBUTION SYSTEM

WARM AIR SYSTEM INSTALLATION

Ducts size (heat)

- 4 inch outlet reduce by 1" Always by 8" thick
- 5 inch outlet reduce by 2"
- 6 inch outlet reduce by 3"

N.B.: The main duct must be reduced every 2 outlets.

Ducts specifications (heat)

Dimensions	Length	Elbow	Average equivalence
4"	10'	1 x 90°	Max 4,000 Btu
5"	10'	1 x 90°	Max 6,000 Btu
6"	10'	1 x 90°	Max 7,000 Btu

DAMPER

- For a 4" warm air outlet: 2" x 10" damper
- For a 5" warm air outlet: 2" x 12" damper or 4" x 10"
- For a 6" warm air outlet: 2" x 14" damper or 4" x 12"

HOUSE DIMENSIONS

Example: 28 x 40 bungalow: 1,120 sq. ft.

28 x 40 x 8: 8,960 cu. ft. x 1.8 Ch. air/hr.

Exposed walls:

40 + 40 + 28 + 28: 136 x 8: 1,088 cu. ft. x 22:

16,128 Btu

23,936 Btu

Number of windows:

12 of 3 x 4: 144 x 60:

8,640 Btu

Number of doors:

2 x 3 x 7: 42 x 100:

4,200 Btu

52,904 Btu

Non-insulated basement: 25%

Insulated basement: 15%

7,906 Btu

or 54 Btu per sq. ft.

60,840 Btu

48,672 Btu or 14,28 KW

FOR ELECTRIC ELEMENTS 80%:

TO BE ADDED: House 1 1/2 floor = 25%
House 2 floors = 40%

BEDROOM (for example: 12 x 12)

12 x 12 x 8: 1,152 cu. ft. x 1.8 Ch. air/hr.

2,074 Btu

Exposed walls:

12 + 12 x 8: 192 x 22:

4,224 Btu

Windows:

3 x 4 x 60

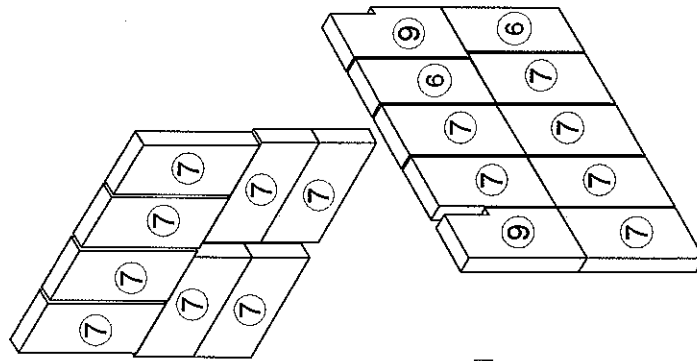
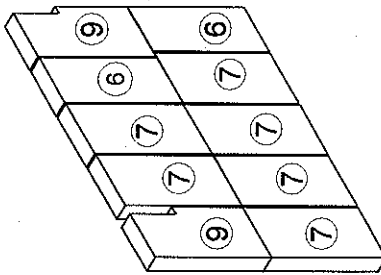
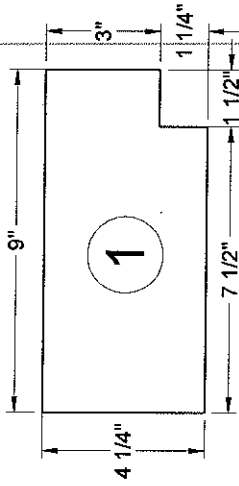
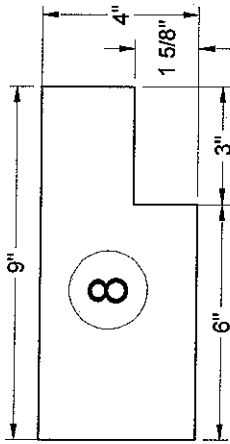
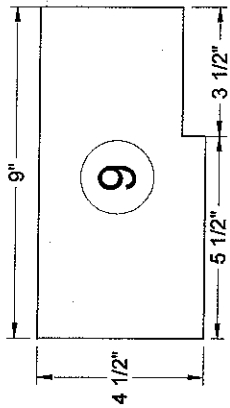
720 Btu

7,018 Btu

11. CADDY BRICKS LAYOUT

WARNING: INSTALL THE CERAMIC BLANKET PANEL BEFORE

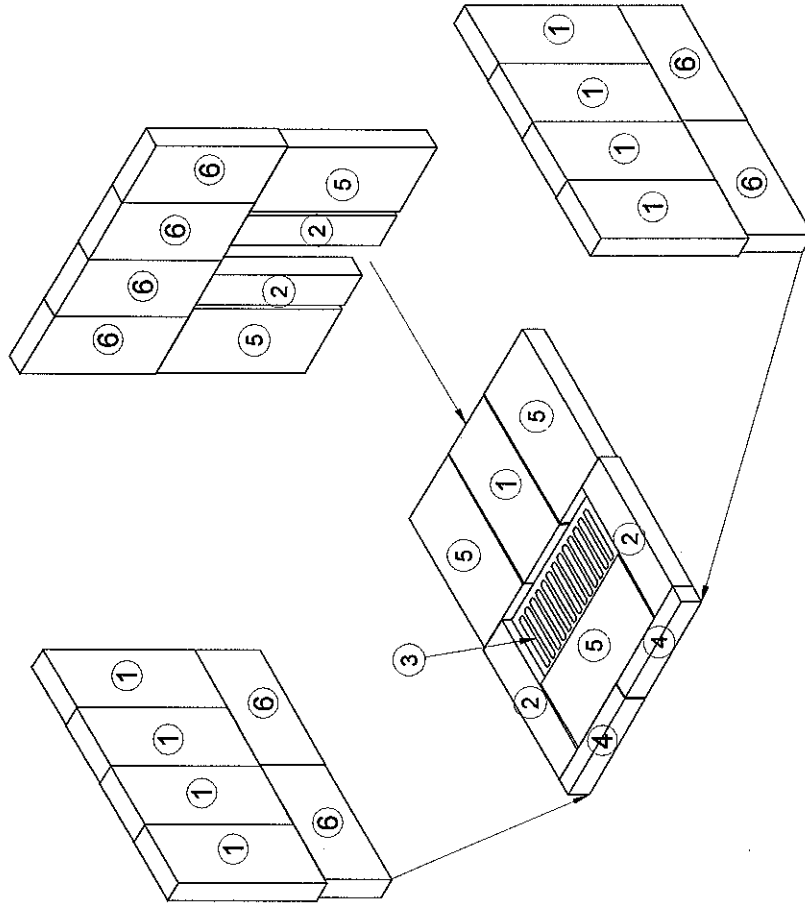
PUTTING BRICKS UP IN THE COMBUSTION CHAMBER



ITEM	PART #	DESCRIPTION	QTY
1		BRICK 4 1/4" X 9" SPECIAL	1
2		BRICK 4 1/2" X 7 5/8"	2
3		BRICK 4 1/4" X 7 5/8"	1
4		ASHGRATE	1
5		BRICK 4 1/2" X 8 3/4"	1
6		BRICK 4" X 9"	6
7		BRICK 4 1/2" X 9"	20
8		BRICK 4" X 9" SPECIAL	2
9		BRICK 4 1/2" X 9" SPECIAL	4

12. MINI-CADDY BRICKS LAYOUT

ITEM	PART #	DESCRIPTION	QTY
1		BRICK 9" X 4" X 1 1/4"	9
2		BRICK 9" X 2 1/4" X 1 1/4"	4
3		ASH GRATE	1
4		BRICK 5 7/8" X 1" X 1 1/4"	2
5		BRICK 9" X 4 1/2" X 1 1/4"	5
6		BRICK 8" X 4" X 1 1/4"	8



13. TROUBLE SHOOTING

PROBLEM	CAUSES	SOLUTIONS
Heating inefficient during the first combustions. Lack of draft.	Improper adjustment of the barometric damper (opened too wide). Chimney flue restriction (too long, 90° elbows)	Adjust the damper, minimize the chimney length and use 45° elbows.
Furnace heats well, warm air plenum is very hot by there is not much heat coming out in the room.	Improper installation of the ducts, little static pressure, unbalanced system (too many warm air outlets and not enough cold air inlets).	Reinstall the ducts correctly. Respect the minimum static pressure of 0.20 in. w.c.
Furnace consumes a lot of wood.	The thermostat which controls the damper is continuously activated and is too close to a source of cold. Damper not properly adjusted. House not insulated enough. Ash drawer is not tightly closed. Furnace too small for the surface to be heated. Unbalanced ventilation system, very little heat where the thermostat is located.	Relocate the thermostat. Adjust the chain that links the damper to the servo-motor. Rebalance the ventilation system in order to increase the air flow in the room where the thermostat is located.
Fan start-up is too slow.	Fan "ON" setting too high. Return air is too cold (temperature lower than 65 degrees). Limit control not well located in the warm air plenum.	Lower the temperature starting point. Usually, the limit control is set at 150 degrees, we can under certain conditions, reduce this temperature. Reduce the fresh air flow. Relocate the limit control.
A lot of creosote, moderate heat output.	Wet wood, lack of draft. Barometric damper not properly adjusted. Sooted up chimney.	Use dry wood. Adjust the barometric damper. Clean the chimney flue and the furnace exchangers.
Furnace heats a lot but the warm air plenum does not get hot.	Wet wood or low grade wood. Too much cold air return for the hot air ducts. Unbalanced ventilation system.	Use dry wood. Reinstall the ventilation system correctly.

IMPORTANT NOTE

FOR, INSTALLATION OF A CENTRAL HEATING VENTILATION SYSTEM, IT IS HIGHLY RECOMMENDED TO CONSULT A HEATING SYSTEM VENTILATION SPECIALIST.

N.B.: STOVE BUILDER INTERNATIONAL INC. IS NOT RESPONSIBLE FOR POOR APPLIANCE PERFORMANCES, DUE TO AN IMPROPER INSTALLATION



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 e-mail : tech@sbi-international.com web site : www.psg-distribution.com

LIMITED LIFETIME WARRANTY

The PSG warranty extends only to the original consumer purchaser and is not transferable. This warranty covers brand new products only, which have not been altered, modified nor repaired since shipment from factory. Proof of purchase (dated bill of sale), model name and serial number must be supplied when making any warranty claim to your PSG dealer

This warranty applies to normal use only. Damages caused by misuse, abuse, improper installation, lack of maintenance, over firing, negligence or accident during transportation are not covered by this warranty.

This warranty does not cover any scratch or discoloration caused by over firing, abrasives or chemical cleaners. Any defect or damage caused by the use of unauthorized parts or others than original parts void this warranty.

An authorized qualified technician must perform the installation in accordance with the Instructions supplied with this product and all local and national building codes. Any service call related to an improper installation is not covered by this warranty.

Returned products are to be shipped prepaid to PSG for investigation. If a product is found to be defective, PSG will repair or replace such defect and reasonable transportation fees will be refund. Repair work covered by the warranty, executed at the purchaser domicile by an authorized qualified technician requires the prior approval of PSG. Labour cost and repair work to the account of PSG are based on predetermined rate schedule and must not exceed the wholesale price of the replacement part.

PSG at its discretion may decide to repair or replace any part or unit after inspection and investigation of the defect. PSG may, at its discretion, fully discharge all obligations with respect to this warranty by refunding the wholesale price of any warranted but defective parts

PSG shall in no event be responsible for any special, indirect, consequential damages of any nature, which are in excess of the original purchase price of the product.

DESCRIPTION	WARRANTY APPLICATION	
	PARTS	LABOUR
Combustion chamber (weldings only)	LIFETIME	5 years
Perforation caused by rust	5 YEARS	n/a
Stainless steel baffle	5 years	1 year
Carbon steel baffle	2 years	1 year
Handle assembly	5 years	n/a
Ash drawer	Lifetime	1 year
Cast iron parts	5 years	1 year
Ceramic glass (thermal breakage only)	1 YEAR	n/a
Paint, refractory bricks, gasket, blower, thermal switch (thermodisc) and rheostat	1 YEAR	n/a
Plating	1 year	n/a

Shall your unit or a components be defective, contact immediately your PSG dealer. Prior to your call make sure you have the following information necessary to your warranty claim treatment:

- You name, address and telephone number;
- Bill of sale, dealer's name;
- Serial number and model name as indicated on the nameplate fixed to the back of your unit;
- Nature of the defect and any relevant information.

Before shipping your unit or defective component to our plant, you must obtain from your PSG dealer an Authorization Number. Any merchandise shipped to our plant without authorization will be refused automatically and returned to sender.